DOCUMENT RESUME

ED 206 385 PS 012 348

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TITLE Prosocial Behavior, Perspective Taking, and Empathy in Preschool Children: An Evaluation of Naturalistic and Structured Settings.
PUB DATE Apr 81
NOTE 34p.; Portions of this paper were presented at the Biennial Meeting of the Society for Research in Child Development (Boston, MA, April 2-5, 1981).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Cues; *Empathy; Motivation; Observation; *Peer Relationship; *Perspective Taking; *Preschool Children; Preschool Education; *Prosocial Behavior; Rating Scales; *Research Methodology; Sex Differences; Spontaneous Behavior; Teacher Attitudes
IDENTIFIERS Context Effect; *Multiple Measures Approach; Naturalistic Observation

ABSTRACT

The prosocial behavior of 52 preschool children was assessed using three different approaches: naturalistic observation, laboratory measures, and teacher ratings. During the naturalistic observation, an observer, either male or female, focused on one child at a time and recorded any examples of prosocial behavior demonstrated by the child as well as the antecedents (whether a request preceded the behavior and, if so, which type of request) and the consequences of this behavior (whether the recipient expressed gratitude or reciprocated). Each child was observed for an average of 79 minutes over a period of 5 months. During the last month of the observation, laboratory measures of perspective taking, prosocial behavior, and empathy were taken. Three teachers then rated the children's prosocial behavior under different eliciting situations: explicit request from the teacher, explicit request from another child, or spontaneous behavior without a request. Analysis of the antecedents and consequences of the prosocial behavior, the structured measures of perspective taking, and the components of empathy suggest the relative importance of various contextual and motivational influences on each type of prosocial behavior. Preschool children demonstrate a sensitivity to the needs and feelings of their peers, and this capacity, though not tapped by traditional measures of perspective taking, may mediate prosocial behavior in the natural setting. Methodological implications are also presented. (Author/MP)

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PROSOCIAL BEHAVIOR, PERSPECTIVE TAKING, AND EMPATHY IN PRESCHOOL CHILDREN: AN EVALUATION OF NATURALISTIC AND STRUCTURED SETTINGS

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SUBMITTED FOR PUBLICATION

Running Head: Prosocial Behavior

Portions of this paper were presented at the meeting of the Society for Research in Child Development, Boston, April, 1981.

The author would like to thank Terri Bates for her assistance in gathering the data for this study, Judy Stoof, Roberta Smith, and Nancy Carter for their patience and cooperation, and Mark Cummings for suggestions with regard to an earlier draft of this manuscript.

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PS012348

Abstract

Prosocial behavior in 52 preschool children was assessed using three different approaches; naturalistic observation of specific prosocial acts, laboratory measures of perspective taking, empathy, and two types of prosocial behaviors, and teacher ratings of prosocial behaviors under different eliciting situations. The observational categories included antecedent and consequent conditions. Different categories of prosocial behavior within settings were relatively independent, however, certain structured measures were useful for predicting naturalistic behaviors, accounting for 31% to 43% of the variance of the observational categories. Analysis of the antecedents and consequences of the prosocial behavior, the structured measures of perspective taking, and the components of empathy suggest the relative importance of various contextual and motivational influences on each type of prosocial behavior. Preschool children demonstrate a sensitivity to the needs and feelings of their peers and this capacity, though not tapped by traditional measures of perspective taking, may mediate prosocial behavior in the natural setting. Methodological implications are also presented.

Prosocial Behavior, Perspective Taking, and Empathy in Preschool Children: An Evaluation of Naturalistic and Structured Settings

Questions have been raised about the interrelationship between different categories of prosocial behaviors within a single context and the relationship between measures of prosocial behavior across contexts. These questions have broad implications for mechanistic and organismic models of human development, for methodological concerns with univariate approaches to social behavior, and for theoretical conceptualizations of developmental processes and the attendant intervention strategies.

Issues of consistency and generality arise with respect to conceptual differences in models of development (Reese & Overton, 1970). The presupposition that prosocial behaviors are independent categories of behavioral events which are only related to the extent that they share similar situational-contextual controls is central to the mechanistic world view. These behaviors are hypothesized to be independent in expression, developing through identical processes, i.e., general behavior theory. The expectation that there is a relationship between behaviors and processes and that an interrelationship exists between those prosocial behaviors which reflect congruent socio-cognitive processes is a corollary of the organismic world view. This approach raises the possibility of structural relationships between cognitive and affective processes mediating social knowledge and social-emotional behaviors. Thus behaviors reflecting different motivational processes may be independent but patterns should emerge for behaviors sharing structural origins.

Most studies of prosocial behavior do not permit an evaluation of these assumptions because they rely on a single measure of a particular form in an atypical context. Generalizations of these findings or comparisons between studies has been very difficult and raises questions about the reliability and validity of the measures. Assessment procedures for prosocial interactions

must therefore consider different forms of prosocial behavior, different contexts, and different patterns of antecedents and consequences. Studies that use measures of different forms of prosocial behavior do not always examine them in the same context or systematically vary contexts for the same behavior. The few studies that report the relationship between different forms of prosocial behavior indicate a low but statistically significant correlation (e.g., Hay, 1979; Yarrow and Waxler, 1976). Rushton (1976) suggests a correlation of .30 is most representative of the findings. In the present study, four forms of prosocial behavior, helping, sharing, cooperating, and comforting, are assessed in a naturalistic setting and with teacher ratings, and two forms, sharing and helping are assessed with structured tasks, in order to assess the relationship between different categories of prosocial behavior in the same setting, and the consistency of two forms of prosocial behavior across settings. If different forms of prosocial behaviors are not related or the relationship is dependent on the context, then analysis of the motivational processes involved in prosocial behavior must consider multiple contexts. Tonick, Gelfand, Hartmann, Cromer, and Millsapp (Note 1) and Eisenberg-Berg and Lennon (1980) have demonstrated the importance of antecedents and consequences in the analyses of consistency and the conceptualization of motivational processes of prosocial behavior. Whether the behavior is spontaneous, requested by the recipient, or requested by another child or adult, and whether the behavior is followed by any form of positive acknowledgment by a peer or an adult is also assessed in this study. It is hypothesized that prosocial behaviors assessed in different settings will not be related.

Different theoretical approaches suggest a variety of determinants of prosocial behaviors including expectations of reciprocity or approval, norms of responsibility, affective arousal to distress, and socio-cognitive development. Consistency between content categories of prosocial behavior would suggest a single motivational basis, e.g., a trait approach. If a lack of consistency between categories is present, patterns may still exist for clusters of behaviors sharing similar motivational bases. Intervention strategies would then focus on these processes. If patterns cannot be found, intervention would be limited to attempts to change particular behaviors in a particular context.

The mediational role of emotional responsiveness and social cognition as predictors of different patterns of prosocial behaviors is examined in this study. Using composite measures of prosocial behavior (Eisenberg-Berg & Lennon, 1980; Krebs & Sturrup, 1974; Allen, Note 2), measures of sharing (Buckley, Siegel, & Ness, 1979; Miller, 1979; Leiman, Note 3; Sawin, Note 4; Tierney, Note 5), or measures of helping (Aderman & Berkowitz, 1970; Buckley, et al., 1979; Mehrabian & Epstein, 1972; Sawin, Note 4) researchers generally report positive relationships with empathy. The relationship between empathy and cooperation or comforting is usually unexamined or not significant (cf., Eisenberg & Lennon, 1980; Levine & Hoffman, 1975; Marcus, Telleen, & Roke, 1979; Tierney, Note 5). There is strong support for the argument that empathy mediates prosocial behavior but the nature of the relationship may be dependent on the motivational processes involved in different categories of prosocial behavior.

The importance of the procedures for assessing empathy and the way in which empathy is conceptualized has been documented as well (Iannotti, 1975b, 1979; Shantz, 1975). Measures of empathy may be differentiated on the

basis of whether they require a cognitive or emotional response and whether this response is to situational cues or affective cues. There is evidence that the relationships between prosocial behaviors and empathy is dependent upon the particular definition and measurement techniques used for empathy (Iannotti, 1975a; Allen, Note 2). It is naive to assume that emotional responsiveness will affect all types of prosocial behaviors in the same manner or that all prosocial acts reflect a single form of empathy. Different complex patterns of prosocial behavior are likely to be mediated by different forms of empathy. Certain forms of prosocial behavior, e.g., helping that is not explicitly requested, may be dependent on more cognitive aspects of empathy, responding cognitively to the situation of the other. Other prosocial acts, e.g., spontaneously comforting another, are likely to be mediated by affective empathy, responding emotionally to the affective cues of another. A measure of empathy which reflects these different cues and different levels of emotional involvement is used in the present study in order to examine the possible relationship between different forms of empathy and different patterns of prosocial behavior. It is expected that the motivational processes mediating the different forms of prosocial behavior would be context and content dependent with empathic processes influencing sharing and comforting more than helping and cooperating.

The corresponding argument can be constructed for the influence of perspective-taking processes on prosocial behavior. Measures of perspective taking have been positively correlated with helping and sharing and attempts to enhance perspective-taking skills have produced increased prosocial behavior (Ahammer & Murray, 1979; Buckley, et al., 1979; Chandler, 1973; Iannotti, 1978; Rubin & Schneider, 1973; Staub, 1971). But, there is some contradictory

evidence and it is questionable that the relationship is consistent across all ages and across all measures of perspective taking (Eisenberg-Berg & Lennon, 1980, Johnson, 1975; Rushton & Wiener, 1975; Zahn-Waxler, Radke-Yarrow, & Brady-Smith, 1977; Eisenberg-Berg & Lennon, 1980). The mediational role of perspective-taking processes may be dependent on the contextual and motivational elements of the social interchange. Perspective-taking measures which assess perceptual processes, e.g., spatial perspective taking, or require understanding of an unfamiliar adult or hypothetical peer, are less likely to reflect the interdependencies between cognitive and social domains. A battery of assessment procedures which indicate social and affective understanding of familiar peers and adults provides a basis for evaluating the nature of the relationship, and for analyzing the role of particular forms of perspective taking as mediators of particular patterns of prosocial behavior. In the present study three perspective-taking measures assess social perspective taking in relation to familiar peers and adults. In addition to these structured measures of different forms of perspective taking a potential naturalistic measure of perspective taking, i.e., the ability of the child to anticipate the needs of a peer, is investigated in the context of prosocial interactions. Perspective-taking processes are assumed to facilitate more cognitive and self-beneficiary acts such as cooperation and helping. It is expected that the nature of these relationships will be further dependent on the particular measure of the motivational processes and the extent to which it relies on situational and affective cues.

Method

Subjects

The 52 children (21 females and 31 males) in this study attended a preschool in a small midwestern city. Their average age was 59 months with a range of 52 to 66. The children were from predominately white, middle class homes. The preschool had no dominant conceptual orientation; the major goal was to provide opportunities for peer interaction and to prepare the children for an elementary school environment. The preschool classes met in two groups of 26 children each, three times a week either in the morning or the afternoon.

Procedure

Since it was the location for the field experiences of classes in developmental psychology, the children in the preschool were accustomed to adults, including the two observers for this study, observing and recording their behavior. The observer, either male or female, focused on one child at a time and recorded any examples of prosocial behavior demonstrated by this child as well as the antecedents and consequences of this behavior. The average child was observed (in random order) for three sessions totaling 79 minutes over a period of five months. During the last month of observation, laboratory measures of perspective taking, prosocial behavior, and empathy were administered and the three teachers of the class rated the children's prosocial behaviors.

Observational Categories

Four categories of prosocial behavior were recorded by two trained observers; sharing, cooperation, helping, and comforting. In addition to coding the

prosocial behavior, the observers indicated the antecedents (whether a request preceded the behavior and if so which type of request) and the consequences (whether the recipient expressed gratitude or reciprocated) of the act. Reliability was established with both observers coding for 300 minutes. Reliability was computed by dividing the sessions into two-minute samples and computing the number of agreements divided by the agreements plus disagreements for 150 time samples. The overall reliability for identifying prosocial events was 86% while agreements that nothing occurred during a two minute segment was 89%. The definition of the categories and the reliability of each category is presented in Table 1.

Insert Table 1 about here

For each child, the number of times a particular behavior occurred was divided by the number of minutes the child was observed to provide a rate of occurrence for each of the categories. These rates were then used for all data analyses.

Laboratory measures

During the last four weeks of observation each child, in a random order, was taken to a room in the preschool building where prosocial behavior, perspective-taking, and empathy were assessed. A familiar adult, one of the two observers, requested that the child accompany him or her to the other room in order to play some games. On the way to the room, the subject was asked a series of questions about school and their siblings to provide the information necessary for some of the tasks. The session lasted approximately 15 minutes. There were three measures of perspective taking: Hiding game,

Choice game, and Nickel-Dime Game; two measures of prosocial behavior, helping and sharing; and a single measure of empathy. The measures are as follows:

Helping. As the experimenter was recording information on a form, he or she "accidentally" knocked a container of pencils onto the floor. The experimenter said, "Oops," and continued writing for 20 seconds, and then proceeded to retrieve the pencils from the floor for 30 seconds. The child who spontaneously helped during the initial 20 seconds received a score of 2. The child who helped during the time when the experimenter was collecting the pencils received a score of 1. If the child did help, they were not thanked, but instead were told where to put the pencils.

Penny Hiding. The Devries (1970) Penny Hiding Game was administered to the children to assess social perspective taking in an interactive game. The child is instructed to guess the location of a penny which for several trials has been hidden in one of the experimenter's hands. On the following six trials, the child is asked to hide the penny so that the experimenter can guess its location. When the experimenter is hiding, the location of the penny is controlled. There are pennies in both hands for the first three presentations. Both hands are empty for the second three presentations, and both hands contain pennies in the seventh trial.

The scoring of this task is based on the ten-point system used by Devries; a low score reflects a lack of awareness that an individul can be deceptive and possesses private information, and a high score reflects awareness of perspective taking and attempts to trick the other individual with a deceptive hiding strategy. This measure has been judged by researchers in the field to be interesting to and appropriate for young children (Kurdek, Note 6).

Gift Choice. The Gift Choice Task was developed by Flavell (TASK IIIB, 1968) and has also been judged to be a realistic game, appropriate for young children (Kurdek, Note 6). The child is shown a "store" with stockings, neckties, toy trucks, dolls, and books and is asked to select a gift for his or her father, mother, teacher, opposite sexed sibling or friend, and him or herself.

The scoring system, which is described by Flavell, places a child in one of four levels depending on whether they egocentrically select a role-inappropriate gift for an adult or whether they demonstrate perspective taking by selecting gifts which are role appropriate for the recipient.

Nickel-Dime Game. This task, also described by Flavell, was included to assess more advanced levels of perspective taking. The child is shown a box containing 5 pennies with a "5" written on the outside, and a box containing 10 pennies with a "10" on the outside. The child is told that another child is going to guess which box has money in it. The child must trick the other child by removing the money from one of the boxes. Next the child is asked to choose between the 5 and 10 cent boxes left by "the child before you." Based on the child's reasons for selecting a particular box, perspective-taking processes rather than the actual solutions to the problems are evaluated with a 6-point classification of perspective taking. A child who cannot give any reasons or motives for behaviors receives the lowest score; a child who can reflect on others' motives and reasons in their decision receives a higher score.

Empathy. The measure of empathy is described by Iannotti (1978). The child is told a story about a picture and asked to indicate his or her own feelings and the feelings of the character in the story. The story only describes the situation while the picture shows the situation and the

character's emotion. In 8 of the 16 pictures, the emotional expression of the character was incongruent with the situation, for example, a sad boy at a birthday party. To indicate his or her own and the character's feelings, the child was asked to point to one of four pairs of drawings of faces, which were verbally labelled as happy, sad, afraid, and angry. The eight incongruent stimuli were used to indicate whether the child responded to the situational cues or the emotional cues of the character. Situational empathy was scored as the number of responses to these stimuli which matched the situational cues and affective empathy was scored using the responses which matched the emotional cues (Iannotti, 1975a).

Sharing. Each child was given a choice of either M & M's or raisins. Eleven of the preferred items were given to the children while the experimenter indicated that they "could leave some for _____ (their best friend)." Several options were presented (eating all, giving some, and giving all of the candy or raisins). The child was then left alone to put the candy in an envelope marked with the name of his or her best friend. The number of candies shared with the friend was the sharing score.

Teacher Ratings. During the fifth month of the project, the two teachers in each of the preschool classes rated the children's prosocial behaviors using a 7-point score. The form included 39 items indicating positive and negative examples of sharing, cooperating, helping, and comforting. The eliciting situation for the behaviors, including explicit request from the teacher, explicit request by another child, or spontaneous behavior without a request, was also varied. The total score for the items relating to each eliciting situation and each category of prosocial behavior, was computed for each child.

Results

The means for males and females on all measures are shown in Table 2. The empathy measure is divided into four categories depending on whether the subject's response matches the affective or situational cues depicted in the incongruent stimuli, i.e., labeling the character's or one's own emotions based on the situational cues and labeling the character or one's own emotions as appropriate to the emotional cues.

Insert Table 2 about here

A total of 421 naturally occuring prosocial events were observed. The prosocial behavior with the highest frequency was cooperative behavior. Only one incident of comforting behavior was coded. However, we should note that affectionate behavior was not recorded and the distress cues had to be clear before the behavior was coded as comforting. It may be that comforting occurred but was not preceded by clear affective distress. The observers did note comforting in children other than the target child for the particular observation period. Because of this low rate the data with respect to comforting will not be discussed further. The rates of the prosocial behaviors are quite low, consistent with the rates found in other observational studies (e.g., Eisenberg-Berg & Lennon, 1979; Yarrow & Waxler, 1976).

The laboratory measures of helping indicate that 39% of the males and 29% of the females helped pick up pencils, one-third of these acts occurred before the adult attempted to collect them. The average child who did share, 55% of the males and 57% of the females, gave a little more than half of the available candy to a best friend, $\underline{M} = 5.9$. The group average including nongivers was 3.3. The Penny Hiding Game and Gift Choice Task indicate that these children were aware that others have different needs and different knowledge, but they were not able to use this knowledge in

the Nickel-Dime Game. The complexity of the latter task and the need to verbalize the thought process may have made this task more difficult for these preschoolers. The performance on the empathy stimuli was not significantly above chance (a score of 2) except for the child's ability to label the affective state of another based on emotional cues.

There were no significant differences between males and females in the naturalistic data or the laboratory measures. Significant sex differences were found for the teacher ratings of sharing, t (50) = 3.63, $p < .001$; and comforting, t (50) = 2.33, $p < .05$.

Although these children were from the same age-grouped classes within the preschool, two of the behaviors showed a relationship with age, cooperative behavior and performance on the Penny Hiding Game. Both of these increases are consistant with past research (Bryan, 1975; Devries, 1970; Radke-Yarrow, Zahn-Waxler, & Chapman, in press).

Analysis of Antecedents and Consequences. The prosocial events were most frequently preceded by a direct request from a teacher, 38.2%. However, 28% of the prosocial acts occurred without a verbal or non-verbal request for a teacher or another child. In most of these incidents, 23%, the recipient was judged to have a genuine need for the prosocial act although it was not explicitly expressed to the altruist. Sharing and refusals to be prosocial were usually preceded by a verbal or nonverbal request from the potential recipient, 60.2% and 50% respectively. Cooperative behavior was usually elicited by a teacher request, 60%, while helping behavior was usually preceded by no request, 54%, or 68.3% when no need is included. Verbal and nonverbal requests from a child were more likely to result in refusals, 29%, than requests from a teacher, 14%.

Excluding refusals to show prosocial behavior when it is requested, 75% of the prosocial acts were followed by no apparent consequences, 17% by an expression of gratitude, 6% by a prosocial act, and 2% by affectionate behavior.

Relations within Settings. The correlation matrix for the more frequent observational categories and the laboratory measures is presented in Table 3.

Insert Table 3 about here

The observational categories of prosocial behavior were unrelated except that sharing is correlated with refusing to be prosocial.

As has been found in past research, two laboratory measures of prosocial behavior were unrelated. The same is true of the three measures of perspective taking. The structured measure of sharing was significantly correlated with labeling others' emotions based on affective cues; r (50) = .32, p <.05, and negatively related to role-appropriate gift choice, r (50) = -.44, p <.01. Helping an adult was positively correlated with using situational cues to identify anothers' affect; r (50) = .29, p <.05. The teacher ratings, not shown in Table 3, were all significantly related, with correlations ranging from .34 to .82.

Relations Between Settings. In spite of the relative independence of these behaviors within settings, there were some relationships between settings. Behaving prosocially when there has been no request is negatively correlated with cognitive tasks such as the Nickel-Dime Game and positively related to sensitively to affective cues. Sharing in the preschool was positively correlated with the laboratory measure of sharing; r (50) = .33, p <.05, and with labeling another's affect based on the emotional cues; r (50) = .33,

$p < .05$. Being asked to demonstrate a prosocial behavior but refusing is associated with laboratory measures of sharing, r (50) = .35, $p < .05$, and responding to another's emotional cues; r (50) = .35, $p < .05$.

The teacher ratings omitted from Table 3 were not related to any of the naturally occuring prosocial behaviors. Teacher ratings of comforting was related to some of the laboratory measures. Teacher ratings of comforting were positively correlated with performance on the Gift Choice Task, r (50) = .34, $p < .05$, and negatively correlated with sharing in the laboratory setting; r (50) = .41, $p < .01$.

Regression analyses were performed to see if the laboratory measures could be used to predict performance in a natural setting. As evidenced by the correlation matrix the weightings used for the laboratory measures were not always in the predicted direction, however, when used together the measures did demonstrate some predictive validity. The laboratory measures accounted for 31%, 38%, 31%, and 43% of the variance of sharing, cooperating, helping, and refusing to be prosocial, respectively. The two measures which were usually entered first or second in the regression equation were the empathy measure and the sharing task. The pattern of entry of the laboratory measures varied greatly, however, between observational categories. The components of the empathy measure accounted for 13, 17, 23, and 19 percent of the variance of sharing, cooperating, helping, and refusing to be prosocial, respectively.

DISCUSSION

There was no relationship between different categories of prosocial behavior within the same setting. This was the case for the four categories assessed in the natural setting as well as the two categories, helping and sharing, which were assessed with structured tasks (cf. Eisenberg-Berg & Lennon, 1980, Yarrow & Waxler, 1976). Performance on the three structured

measures of perspective taking was also relatively independent (cf. Kurdek, 1977; Rubin, 1978). One solution to this problem has been to use a simple sum or weighted combination of the scores on these measures to obtain a single indicator of a child's behavior. A total derived from a battery of measures is more representative of a child's involvement in prosocial behaviors and more sensitive to gross relationships (Rushton, 1976; Zahn-Waxler, et al., 1977). However, combining multiple measures of prosocial behavior to obtain a single score ignores differences in motivational systems, the nature of the interpersonal relationship, and the contextual arrangement. Understanding of the precise processes is sacrificed by assuming similar motivational systems for all prosocial behaviors and similar mediational processes for all measures of social cognition. These findings affirm the need for multiple measures of social behaviors which are ecologically valid and sensitive to motivational processes.

Are structured measures of prosocial behavior valid predictors of prosocial interchanges in the preschool setting? The sharing task was related to sharing behaviors observed in the preschool setting. The helping task was not significantly related to any category of prosocial behavior. The helping task involved prosocial behavior to an adult while the sharing task involved generousity to a good friend. One explanation of the independence between structured and naturalistic measures of helping is that the setting, contextual constraints, and focus of attention are all situational determinants of prosocial behavior. The sharing task permits a reflective decision of generousity to a familiar peer. Different motivational processes may be involved in other prosocial categories since the intercorrelated naturalistic and structured measures of sharing were independent of other measures and categories. The relationship between the two measures of sharing suggest that laboratory tasks can be designed so as to attain predictive validity.

In contrast to the other measures, the teacher ratings of prosocial behavior were very consistent across categories and across eliciting situations. These high correlations may reflect observational biases or "halo" effects for the teachers. Children tended to be high or low without differentiation between categories or situations. Sex differences favoring females were present for two of the categories. These findings conform to our sex role stereotypes but do not correspond to the observational data reported here and elsewhere (e.g., Barrett, 1979). It is likely that observer biases confound the validity of teacher ratings. The lack of correlation between teacher ratings and structured or observational measures of prosocial behavior would indicate that the use of teacher ratings as the sole measure of behavior should be avoided. Independent corraboration of teacher ratings as sources of data are recommended.

Analyses of antecedents and consequences of the prosocial acts and of the social cognitive mediators facilitate the conceptualization of processes influencing prosocial behavior. Teachers have a substantial influence on prosocial behavior in preschool children. Teacher requests account for a greater proportion of the antecedents of prosocial behavior than any other behavior and they are less likely to be refused than requests from a child. In most cases these are requests for cooperative behavior such as working together in the block corner or working together to clean up a toy with which both children were playing. Prosocial behaviors following a teacher request were no more likely to be followed by positive responses such as an expression of gratitude and a prosocial act (sharing or affection) than any other antecedent category. The low frequency of prosocial acts, the low frequency of positive consequences, and the proportion of refusals in response to requests are consistent with past research (Eisenberg, et al., 1981, Yarrow & Waxler, 1976; Tonick, et al., Note 1).

Children frequently exhibit prosocial behaviors without receiving direct requests from the recipient or indirect requests from teachers or peers. The No Request and No Need antecedents account for 28% of the prosocial acts. In the No Request category, there is clear evidence that these children were sensitive to the needs of the other child. Two examples illustrate this point. The path of a child with an armload of Playdough was blocked by two chairs. Another child stopped her ongoing activity, and moved the chair before the approaching child reached it. In another example of prosocial behavior with the no request antecedent, a boy saw another child spill a puzzle on the floor and assisted him in picking it up. Responding to the needs of others when there is only a low probability of reinforcement would suggest that these children are aware of the feelings and motives of others and that they act on this awareness.

Two processes frequently used to explain prosocial behavior in response to the needs of others are empathy and social perspective taking (Aronfreed, 1968; Hoffman, 1975; Iannotti, 1975b; Staub, 1971). The results of the regression analyses provide substantial evidence that emotional responsiveness relates to prosocial behavior but the relationship depends on the form of prosocial behavior, the nature of the empathic cues, and the quality of the response to those cues. Other research has suggested a complex relationship between empathy and prosocial behavior depending on a variety of factors including contextual elements (Gove & Keating, 1979; Miller, 1979; Radke-Yarrow, et al., in press). Responses to the empathy stimuli were the best predictors of the various observational and structured measures of prosocial behavior, but the relationship depends on whether the child is responding to situational or affective cues.

The correlational results indicate that recognizing another's affect based on situational cues is related to helping an adult in a structured setting. The ability to identify situational cues and to infer from these the needs and affective state of others may be an important element of the helping response (cf., Allen, Note 2). Situational cues also indicate the form of aid which is required. However, it is important to note that labeling another's affect based on situational cues is positively related to teacher requests and negatively related to spontaneous prosocial behaviors without requests. It is possible that these children are more sensitive to adults and adult cues and were, therefore, more likely to help an adult in the structured setting and more likely to receive a request from a teacher. Consistent with this interpretation, Eisenberg, et al. indicate that children who show spontaneous prosocial behaviors are less dependent and adult oriented than those who are asked to behave prosocially. The positive correlation between sharing and refusals to be prosocial suggest that there are indeed certain children who experience more opportunities to behave prosocially and consequently to refuse prosocial requests.

Inferring another's emotions based on the affective cues of the other predicts sharing in both the structured and the natural settings while responding emotionally to these cues correlates with refusing to be prosocial. This is consistent with the relationship between affective labeling and sharing reported by Tierney (Note 5). Sharing behavior may be mediated by responses to affective cues. Once recognizing that the other is in need, the altruist feels sympathy (not empathy) for the other child and is motivated toward prosocial sacrifice to benefit the other. That is, the child apparently does not have to feel the emotions of the other, but merely needs to be able to recognize the affective cues (cf. Tierney, Note 5). Note that labeling others emotions based on

affective cues is positively correlated with the No Request category of antecedents; responding to the needs of another without an explicit request may require sensitivity to the emotional state of the other. Contrary to the theoretical expectation, this No Request category was unrelated or negatively related to structured measures of social perspective taking.

The fact that responding emotionally to another's affective cues is correlated with refusals to be prosocial is consistent with other research (Iannotti, 1975a) and may explain the changes with age in this relationship. A young child who experiences the same affect as someone in need may be motivated to deal with his/her own distress first, rather than the distress of the other. The emotional response may interfere with the ability to differentiate self and other and thereby prevent a compassionate response to the plight of the other. Empathy measures which do not differentiate between responses to affective and situational cues (e.g., Borke, 1971; Feshbach & Roe, 1969) tend to be positively correlated with prosocial acts while those that do differentiate (Burns & Covey, 1957; Iannotti, 1975a, 1979; Tierney, Note 5) indicate a negative relationship for emotional responses to affective cues and a positive relationship for emotional responses to situational cues.

The relative importance of affective cues is supported by the results of perspective-taking tasks. Although it is clear that these children demonstrate basic perspective taking processes and are aware of the needs of others, their performance on the more complex task is quite simplistic. The perspective-taking tasks were significant predictors in the regression equation but the only significant correlation indicates a negative relationship between the sharing task and the Gift Choice Game. Again this suggests that in children this young, concern with nonaffective cues may be inappropriate to a sharing

response. (Eisenberg & Lennon, 1980; Johnson, 1975; Rubin & Schneider, 1973; Rushton & Wiener, 1975; Zahn-Waxler, et al., 1977). Iannotti (1979) provided evidence that more advanced perspective taking processes are involved in the sharing behavior of older children and that the relationship between perspective taking and prosocial behavior is not evident until these more advanced levels are attained.

Thus, it is clear that these young children are sensitive to the needs and emotions of their peers and that they use this awareness in their social interchanges. The lack of a consistent relationship between perspective taking and prosocial behavior in the natural setting implies that, for preschoolers at least, the capacity to understand the point of view or cognitions of another does not assure prosocial behavior. Indeed such a skill may also help the child find alternatives to prosocial behavior (such as refusing to share, ignoring the request, or promising the toy in the future rather than giving it up in the present). But considering the low rate of prosocial behaviors and the modest reliability of the measures, the predictive power of the battery of laboratory measures is quite surprising.

Prosocial behavior as observed in these preschool children, does not conform to any simplistic formulations of the mechanistic or organismic models. Although there is little generality between categories of prosocial behavior, as suggested by the mechanistic model, the patterns of situational antecedents and consequences of the acts do not fit the predictions made by reinforcement theories which are representative of this model. The children demonstrate a substantial proportion of prosocial acts which are seemingly spontaneous and a smaller proportion of their prosocial acts are followed by reinforcing consequences, a reinforcement rate which probably does not discriminate between these acts and the other social acts which primarily benefit oneself (Eisenberg, Cameron, Tryon, & Dodez, 1981; Tonick, et al., Note 1).

The lack of a relationship between types of prosocial behaviors is inconsistent with the general organismic model; there is some evidence that there are motivational systems which underlie patterns of prosocial behavior. Thus, while prosocial categories appear to be independent and subject to some situational control, processes involving perspective taking and empathy are implicated in the motivational systems influencing diverse prosocial acts and individual differences in these behaviors. Expansion or syntheses of the fundamental suppositions of the mechanistic and organismic models are needed.

Different patterns of prosocial behavior may reflect differences in the child's processing of situational and motivational cues. It may be that certain prosocial behaviors, such as helping, are mediated by cognitive processes, while others, e.g., sharing, are influenced by affective processes. The child's capacity for emotional responsiveness and its relationship to prosocial behavior, particularly sharing, deserves further attention. Certainly we must be cautious to avoid overreliance on any single measure of perspective taking, empathy, or prosocial behavior. Multiple measures which reflect various contextual and motivational systems and are sensitive to differences in types of prosocial behavior and in the recipients as well as the altruists are required. Assessment procedures which are limited in scope fail to address these issues and could lead to over-generalization of context-specific findings.

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Table 1

DEFINITIONS OF OBSERVATIONAL CATEGORIES

CATEGORY	RELIABILITY[b]	DEFINITION
ANTECEDENTS:		
Verbal Request	50	The potential recipient of the prosocial behavior explicitly asks for assistance, possession of the object, etc.
Nonverbal Request	75	The potential recipient uses nonverbal means, e.g., pointing or reaching for the object, to indicate desire for the prosocial behavior.
Directed by Child	100	A child other than the recipient directs or requests that the child exhibit a prosocial behavior.
Directed by Teacher	90	A teacher requests or directs that the child exhibit prosocial behavior.
No Request	77	There is no explicit verbal or nonverbal request but the child does appear to need the prosocial behavior, e.g., as evidenced by using the object or pursuing an activity which is made possible by the prosocial behavior.
Don't Know or No-Need	100	There is no explicit request and the recipient doesn't seem to need prosocial act, e.g., doesn't play with a shared object or does not change activities as a result of the prosocial behavior.
ALTRUISTIC BEHAVIORS		
Sharing	86	The altruist gives an object to another, permits other to share in the use of an object, or verbally offers an object which was previously in the altruist's possession.

Table 1 (cont'd)

DEFINITIONS OF OBSERVATIONAL CATEGORIES

CATEGORY	RELIABIBILITY[a]	DEFINITION
Cooperating	90	The altruist and at least one other child are mutually involved in a task such as clean-up or an activity which is facilitated by cooperation. Both children benefit from their involvement whereas the other child is the major beneficiary in sharing, helping, or comforting.
Helping	71	The altruist assists another child by providing information, requesting aid for the child from a teacher or another child, or by doing something which facilitates the ongoing activity of the other child.
Comforting[b]		This is coded only when the recipient has shown distress prior to the act. Comforting includes verbal or physical consolation, such as sympathy, affection, giving an object to the distressed other, or getting an adult to attend to the distressed other.
Refusal	83	Child does not act prosocially when it is explicitly requested.
CONSEQUENCES		
Thank you[b]		The recipient or other person expresses verbal gratitude.
Affection[b]		The recipient or other person shows physical affection.
Prosocial[b]		The recipient behaves prosocially to the altruist in response to the prosocial act.
Nothing or Don't Know	89	There appears to be none of the above behaviors in response to the prosocial act.

[a] Percent agreements are based on 300 minutes of observation by both observers.
[b] These categories had very low frequencies and did not provide sufficient data for computing reliabilities.

Table 2

MEANS FOR OBSERVATIONAL CATEGORIES, LABORATORY MEASURES,

AND TEACHER RATINGS

BEHAVIOR	MALES	FEMALES
OBSERVATIONAL CATEGORIES[a]:		
Sharing	.0306	.0304
Cooperating	.0783	.0912
Helping	.0150	.0286
Comforting	.0004	.0000
Refusing	.0297	.0104
LABORATORY MEASURES:		
Helping Task	.516	.381
Sharing Task	3.16	3.42
Penny Hiding	8.39	8.95
Gift Choice	3.32	3.57
Nickel-Dime Game	.548	.762
SITUATIONAL EMPATHY		
Label others emotions	2.39	1.76
Label own emotions	2.29	2.43
AFFECTIVE EMPATHY		
Label others emotions	3.97	4.38
Label own emotions	2.84	2.29
TEACHER RATINGS		
Sharing	84.5	91.4[b]
Cooperating	89.4	92.2
Helping	86.7	88.5
Comforting	83.2	88.6[c]

[a]Means for observational categories were computed by dividing the frequency of occurance by the minutes observed for each child.

[b]Females were rated as sharing significantly more than males ($p < .001$)

[c]Females were rated as comforting significantly more than males ($p < .05$)

Table 3

CORRELATIONS BETWEEN SELECTED OBSERVATIONAL CATEGORIES AND LABORATORY MEASURES

OBSERVATIONAL CATEGORIES	1	2	3	4	5	6	7	8	9	10	11
1. Teacher Directed											
2. No Request	-.08										
3. Sharing	.15	.02									
4. Cooperation	.34*	.36**	.06								
5. Helping	-.14	.45**	.04	.13							
6. Refusal	.47***	.03	.50***	-.01	-.10						
LABORATORY MEASURES:											
7. Help task	.18	-.28*	-.16	-.03	-.23	-.05					
8. Sharing Task	.03	-.04	.33*	-.23	.15	.35*	-.09				
9. Penny Hiding	.12	.11	.01	.14	.15	.05	-.06	.17			
10. Gift Choice	.23	-.10	-.01	.13	-.16	.06	.04	-.44**	.08		
11. Nickle-Dime	.11	-.34*	.01	-.21	-.15	-.05	-.01	.03	-.03	.03	
SITUATIONAL EMPATHY											
12. Label Other's	.30*	-.29*	-.24	-.04	-.16	-.05	.29*	-.24	-.06	.10	.14
13. Label Own Emotions	.21	-.11	-.11	.21	-.18	-.09	.13	-.05	.04	.04	-.06
AFFECTIVE EMPATHY											
14. Label Other's Emotions	-.24	.42**	.33*	.10	.19	.14	-.19	.32*	.07	-.11	-.14
15. Label Own Emotions	.03	.10	.11	.06	.09	.35*	-.01	.01	-.04	.01	-.14

* $p < .05$, ** $p < .01$, *** $p < .001$